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INCOME ANALYSIS OF ARECA NUT (*Areca catechu)* FARMING IN ULEE LHAT VILLAGE MONTASIK DISTRICT ACEH BESAR REGENCY

ANALISIS PENDAPATAN USAHATANI PINANG (*Areca catechu*) DI DESA ULEE LHAT KECAMATAN MONTASIK KABUPATEN ACEH BESAR

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Abstract

Areca nut (Areca catechu) farming is one of the agricultural sectors that has the potential to make an economic contribution to the community in Ulee Lhat Village, Montasik District, Aceh Besar Regency. This study aims to analyze the income, profit, and farming efficiency of areca nut farmers. The research method used is a quantitative approach with data collection through surveys and interviews with areca nut farmers. Analysis was carried out using the farm feasibility analysis method. The results showed that the income of areca farming in Ulee Lhat Village, Montasik District was Rp 971,850. An R/C efficiency of 2.50, means that the total efficiency of areca nut farmers is feasible to cultivate because R/C> 1.

Keywords: Farming Business, Income, *Areca catechu*

Abstrak

Usaha tani tanaman Pinang (Areca catechu) merupakan salah satu sektor pertanian yang berpotensi memberikan kontribusi ekonomi bagi masyarakat di Desa Ulee Lhat Kecamatan Montasik Kabupaten Aceh Besar. Penelitian ini bertujuan untuk menganalisis pendapatan, keuntungan dan efisiensi usahatani petani pinang. Metode penelitian yang digunakan adalah pendekatan kuantitatif dengan pengumpulan data melalui survei dan wawancara kepada petani pinang. Analisis dilakukan dengan menggunakan metode analisis kelayakan usaha tani. Hasil penelitian menunjukkan bahwa pendapatan usaha tani pinang di Desa Ulee Lhat Kecamatan Montasik sebesar Rp 971.850. Dan efisiensi R/C sebesar 2,50 yang artinya efisiensi total petani pinang layak untuk diusahakan, karena R/C > 1.

Kata Kunci: Usaha Tani, Pendapatan, *Areca catechu*

INTRODUCTION

Areca nut is currently one of the main commodities of community plantations with production value increasing every year. Indonesia's areca production reached 47.1 thousand tonnes in 2015, increasing every year from 2012 with a production of 42 thousand tonnes. Areca nut is also an Indonesian export commodity which continues to increase every year with a volume of 121,092 tonnes with a value of US$ 43,519,000 in 2007 and in 2012 the export value of Indonesian areca nut reached 216,539 tonnes with a value of US$ 156,939,000 (Andesmora, 2021).

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Areca nut is one of the national plantation commodities that has good market prospects. Apart from local consumption, areca nut in Indonesia is also an export commodity, currently developed in almost all regions in the country. In 2021, the national export value of this commodity reached US$ 357 million. Last year in 2022, the price of areca nut touched IDR 22,000/kg for the highest quality category of areca nut, while today based on the author's observation, the price of areca nut has dropped to IDR 8,000-IDR 9,000 for super quality areca nut. Aceh Province contributes a large share, around 40 percent of the national export value. Not a small amount, of course, but this production is growing progressively every year. Statistically, Indonesia is the master of areca exports globally, with more than 60 percent of the world's areca exports coming from Indonesia (Mawardati, 2015).

Aceh Province is one of the potential areas for areca nut commodity development. Areca production in this province continues to increase from year to year. The largest areca nut area in Aceh Province is located in North Aceh District, reaching 12,268 hectares (29.87%) of the areca nut area in Aceh Province. Therefore, besides oil palm, rubber, and cocoa, areca nut is also one of the leading plantation commodities in Aceh Province. (Novita, 2023).

The analysis of the areca farming business aims to determine the extent to which areca farming carried out by farmers provides profit or does not provide profit. Farm income analysis is one way to compare costs and revenues from a production process. Farming is said to be profitable if revenue is greater than costs and is said to be profitable if revenue is greater than costs and is said to be a loss if revenue is less than costs. Based on the description of the objectives above, research was conducted on the Analysis of Areca Farm Income in Ulee Lhat Village, Montasik District, Aceh Besar Regency.

RESEARCH METHODS

This research was conducted in Ulee Lhat Village, Montasik District, Aceh Besar Regency, from May to June 2024.

Tools

The tools and materials used in this study were questionnaires, stationery in the form of pens, and cameras to conduct research documentation.

Research methods

This study used a survey method to analyze the farm income of areca nut farmers in Ulee Lhat Village, Montasik District, Aceh Besar Regency. The first step was observation, namely direct observation in the field to understand the condition of the farm. The research sample was determined by saturated sampling method, which took the entire population of areca nut farmers as many as 12 farmers as respondents with mapping characteristics based on age, education level, number of areca nut plants owned, and family dependents, which is the potential to affect the productivity and income of farmers.

The data used is quantitative with two main sources:

1. Primary data is obtained through direct interviews with respondents using questionnaires, covering farmer identity, land area, production, and income.

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2. Secondary data obtained from the Montasik Agricultural Extension Centre (BPP), journals, and relevant books.

Data Analysis

The data obtained will then be tabulated and processed using the following analysis formula:

Total Revenue Formula

$$TR = Q \times P$$

Where:

TR = Total Revenue
Q = Quantity or Total Production
P = Price or Selling Price

Cost Analysis Formula

$$TC = TFC + TVC$$

Where:

TC = Total Cost
TFC = Total Fixed Cost
TVC = Total Variable Cost

Net Income Analysis Formula

$$\pi = TR - TC$$

Where:

π\piπ = Net Income
TR = Total Revenue
TC = Total Cost

Efficiency Analysis Formula (R/C Ratio)

Formula for R/C Ratio (Revenue-Cost Ratio)

$$\frac{R}{C} Ratio = \frac{TR}{TC}$$

Where:

TR = Total Revenue
TC = Total Cost

Assessment Criteria for R/C Ratio:

a. If the R/C Ratio > 1, the business is feasible and profitable for development.
b. If R/C Ratio = 1, the business is at the Break-Even Point (BEP).
c. If the R/C Ratio < 1, the business is not feasible and should not be continued.

RESULTS AND DISCUSSION

Overview of The Research Location

Ulee Lhat Village is one of 28 villages in Montasik Sub-district, with an area of:0.5192 km². The borders of the area are as follows:

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Northern Boundary: Empe Bata Village
Southern Boundary: Weulhok Village
Western Boundary: Seumet, Seubam Cot, and Seubam Lhok Village
East boundary : Bak Dilip Village

The climate situation in Ulee Lhat Village is generally tropical and has 2 types of seasons, namely the rainy season and the dry season. The rainy season usually occurs between January and April and the dry season between July and November.

Respondent Identity

A farmer is any person who makes a business to fulfill some or all of his or her needs in the agricultural sector. Success in carrying out farming depends on internal and external factors. Internal factors include age, education level, number of family dependents, and length of farming experience. External factors include land size, land ownership status, and main occupation. Distribution of sample farmer identity based on age, education level, number of family dependents, and length of farming experience (Herlita *et al*., 2016). The identity of farmer respondents analyzed in this study includes farmer age, education level, number of family dependents, farmer land area, and farmer experience in farming.

In general, the age of farmers affects their performance in farming, as younger farmers tend to be healthier, more physically fit, and more receptive to innovation than older farmers. Based on this fact, work capacity is strongly influenced by age as an indicator. This does not mean that older farmers are not successful in farming, because the experience of farming is more in the hands of older farmers and some are even more innovative as a result of their renewal (Hasan, 2000).

Table 1. Average Age of Farmer Respondents

o	Age of Farmer (year)	Quantity (person)	Percentage (%)
	45 – 50	7	58,3%
	51 – 60	3	25,0%
	61 – 70	2	16,7%
	Jumlah	12	

Source: Primary data processed, 2024

Table 1 shows that of the total respondents, as many as 12 areca nut farmers with the dominant age level involved in areca nut farming activities is the age level of 45 - 50 years with the number of respondents as many as 7 people with a percentage of 58.3%. The lowest age level is 61-70 years with a total of 2 respondents with a percentage of 16.7%.

The age of respondents greatly affects their physical abilities, way of thinking, and attitudes in managing areca nut farming in decision making. A person who has a young age will be more productive in working, easy and fast in accepting technological changes. For a person who is old and no longer productive, the ability to accept technological changes will decrease, as a result affecting the decreasing work results (Dennis *et al*., 2017).

The identity of the respondent being assessed, namely the number of family dependents, illustrates the potential labor of the farmer's family. The number of family dependents will also affect the income and expenditure of the farming family. The more the number of dependents will be a burden for farmers when viewed in terms of consumption.

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However, the number of families is also an important asset in helping farmers' activities because it will increase the outpouring of family labor so that the production costs that must be incurred by farmers will be smaller (Situngkir *et al*., 2017).

Table 2: Number of Family Members

Family dependents (Person)	Quantity (person)	Percentage (%)
1 – 3	4	33,3%
4 – 5	8	66,7%
Amount	12	

Source: Primary data processed, 2024

Table 2 shows that the highest number of family dependents of respondents are farmers with family dependents of 1 - 3 people totaling 4 people with a percentage of 33.3% and the lowest at the family dependency level of 4 - 6 people totaling 7 people with a percentage of 66.7%. Respondent identification in the form of farming experience can generally affect farmers' knowledge of cultivation techniques in farming activities carried out. Farmers who are more experienced in areca farming will generally be more able to increase productivity than less experienced farmers (Dennis *et al*., 2017).

Table 3. Farmers' Experience in Farming

o	Experience (year)	Quantity (person)	Percentage (%)
	1 - 10	9	75,0%
	11 – 20	3	25,0%
	Jumlah	12	

Source: Primary data processed, 2024

Table 3 shows that the experience of farmers in farming is greatest at the level of 1-10 years, totaling 9 people with a percentage of 75.0%, then 11 - 20 years of experience totaling 3 people with a percentage of 25.0%, with Ulee Lhat Village, Montasik District, Aceh Besar Regency.

Selling price

The selling price is the amount of compensation in the form of money or goods needed to get several combinations of goods or services. The selling price that prevailed at the time of the research in Ulee Lhat Village, Montasik District was IDR 4,000/kg. With a production volume of 482 multiplied by the price of areca nut 4,000 resulting in IDR 1,928,000.

Total Revenue (TR)

Total revenue is a function of the quantity of goods, it is also the product of the quantity of goods by the goods per unit. The amount of areca nut sales ranged from 3 kg to 50 kg with the same sales price of Rp.4000/kg so the amount of revenue ranged from Rp.12,000 to Rp.200,000. The average Revenue of Areca Nut Farming is shown in Table 4.

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Table 4. Average Revenue of Areca Nut Farming

Description	Average Cost (Rp)
Average Revenue	1.928.000

Source: Primary data processed, 2024

Fixed Costs

In the calculation of costs known as fixed assets or fixed costs, which generally have a value that decreases from one period to the next, as use over time will decrease the value of an object if due to use. However, not all fixed assets are worth decreasing because there are assets whose value increases over time, the asset is land.

The value of fixed assets decreases as they are used, and this is referred to in accounting as depreciation. Depreciation is the allocation of the purchase price of a fixed asset due to a decrease in the value of the fixed asset. The amount of depreciation charged to the income statement in a year is based on an estimate of how much of the total economic benefits of the fixed assets have been used in that year (Hajar *et al.*, 2019).

Fixed costs are costs that are relatively fixed in amount and must be incurred by areca nut farmers in Ulee Lhat Village, Montasik District, even though the production obtained is much or little. In other words, fixed costs are not affected by the size of the production produced (Pribadi *et al*., 2020).

Table 5. Average Fixed Costs of Areca Nut Farmers

Description	Tool Cost	Total Depreciation	Amount
Fixed Costs	129.000	2.150	131.150

Source: Primary data processed, 2024

The fixed costs obtained are divided for 60 months according to the depreciation period of Areca farming tools. Calculation of tool depreciation costs by multiplying the price of the tool per unit by the length of use. Tool depreciation is the total fixed cost (Matakena *et al.*, 2021).

Total Costs (TC)

The cost of production facilities is the total cost used to purchase production facilities in the farming business. The cost of production facilities used by respondent farmers in areca nut farming in Ulee Lhat Village is fertilizer. The cost of production facilities is obtained by multiplying the amount of inputs used by the prevailing selling price. Fertilizer requirements are related to the land area or the number of areca nut trees, with fertilizer requirements ranging from 3 kg to 85 kg with expenditure costs ranging from Rp.15,000/land to Rp.450,000/land.

Table 6. Average Cost of Means of Production for Areca Nut Farming

Description	Average Cost (Rp)
Production Facilities Cost	425.000

Source: Primary data processed, 2024

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Agricultural activity that is to be carried out must have a labor input, and the use of labor is expressed in terms of the amount of labor input, that is, the amount of effective labor input. Labor costs are the result of multiplying the number of man-days (HOK) by the wages. The calculation of labor costs is based on the prevailing wage system in Ulee Lhat Village.

Table 7. Average Labour Cost of Areca Nut Farming Business

Description	Average Cost (Rp)
Labour Cost	400.000

Source: Primary data processed, 2024

Variable costs are the total cost of production facilities and labor. Variable costs are costs that change in amount and affect the amount or amount of production produced by areca nut farmers in Ulee Lhat village, Montasik District, in other words, variable costs affect the size of the production produced (Pribadi *et al*., 2020).

Table 8. Variable Costs of Areca Nut Farmers

Variable Cost	Average Cost (Rp)
Production Facilities Cost	425.000
Labour Cost	400.000
Average Cost	825.000

Source: Primary data processed, 2024

Production Costs of Areca Nut Farmers

The total cost of farming consists of fixed costs and variable costs. Fixed costs are costs that are relative in amount and continue to be incurred even though there is a lot of little production, such as equipment depreciation. While non-fixed costs are costs whose size is influenced by the amount of production obtained, including the purchase of production facilities, and labor. The average use of betel nut farming production costs in Ulee Lhat Village, Montasik District can be seen in Table 9 shows that the average use of betel nut production costs in Ulee Lhat Village amounts to Rp.956.150.

Table 9. Total Costs of Areca Nut Farming

Production Costs	Average Cost (Rp)
Fix Cost	131.150
Variabel Cost	825.000
Total	956.150

Source: Primary data processed, 2024

Areca Nut Farming Income (π)

Income analysis aims to determine the amount of areca farming income in Ulee Lhat Village, Montasik District. Farm income is defined as the remaining deduction from the value of revenue obtained by the production costs incurred. The value of farm income received by respondents in Ulee Lhat Village based on harvest is the difference between total revenue and total expenses or costs, both fixed and variable costs. Knowing that the total revenue is

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Rp.1,928,000 and the total costs are Rp.956,150, the amount of income based on the harvest is calculated using the net profit analysis formula as follows:

$$\pi = TR - TC = Rp.1.928.000 - Rp.956.150 = Rp.971{,}850$$

R/C Ratio of Areca Nut Farming

R/C ratio (Revenue-Cost Ratio) analysis is a comparison between revenue and costs. To calculate the R/C ratio using the formula:

$$RC\ Ratio = \frac{TR}{TC} = \frac{Rp.1.928.000}{Rp.956.150} = 2{,}01$$

The result value of R/C ratio 2,01 means:

R/C Ratio > 1, the business is feasible and profitable for development.

The R/C value for harvest is 2.01 which means that every Rp. 1 expenditure will generate revenue of 2.01. The R/C value of more than one indicates that the farm for harvest can provide a profit of 2.01 times based on the harvest of the costs incurred. Areca farming in Ulee Lhat Village managed by respondent farmers is relatively profitable so areca farming in Ulee Lhat Village is feasible to be managed by farmers because it provides benefits and the areca farming business can improve the standard of living of respondent farmers.

CONCLUSION

The characteristics of areca nut farmers in Ulee Lhat village are in the productive age category so they can run areca nut farms well and are open to innovation, this is indicated by the provision of fertilizers to the commodities they cultivate. Farmers also have the appropriate number of family dependents and adequate areca cultivation experience. The results of the total analysis of farm income of areca nut farmers in Ulee Lhat Village, Montasik District amounted to Rp 971,850 and the R/C ratio is 2.01 which means that the total efficiency of areca nut farmers is feasible to cultivate because R/C > 1.

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